

# Roscosmos determines cause of Progress M-27M cargo craft failure

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Roscosmos has released its report on the April 28 accident which caused the loss of the Progress M-27M spacecraft, which failed to reach the International Space Station before delivering its cargo. Photo Credit: NASA

**Roscosmos** revealed on Monday, June 1, the results of the state commission's investigation into the April 28, 2015, accident involving a Soyuz-2.1a carrier rocket and its payload of the Progress M-27M spacecraft.

The Russian Federal Space Agency stated that the failure lies in a unique issue stemming from the joint use of the cargo craft and the carrier rocket.

“A design peculiarity in the joint use of the spaceship and the rocket related to the frequency-dynamic characteristics of the linkage between the spaceship and the rocket’s third stage is the cause for the damage done to the spaceship as a result of the emergency separation of the carrier rocket’s third stage and the transport spacecraft,” **Roscosmos said**.

According to the commission, this construction anomaly was not duly taken into account in the process of the design and tests of the rocket and space complex at Baikonur. Roscosmos is now developing a plan of the complex’s further flight tests.



Roscosmos blamed the accident on a “peculiarity” between the Soyuz 2.1a booster and the Progress spacecraft. Photo Credit: EPA / Roscosmos

**No exact details** were given by the agency with respect to how the design

issue was associated with the frequency oscillations observed within the separation mechanism. No direct explanation was provided for the deviation of the third stage shutdown time and the higher than planned apogee of the insertion orbit.

Roscosmos also announced that it will update the schedule of manned and cargo spacecraft launches for 2015 on June 9.

On April 28, the Soyuz-2.1a rocket with the Progress M-27M lifted off from the Baikonur cosmodrome in Kazakhstan. However, the rocket failed to put the cargo vessel into the designated orbit and Russia's Mission Control lost communications with the space freighter. The craft was intended to deliver supplies to the International Space Station (ISS). A total of six attempts to communicate with the spacecraft were made during the day – all failed.

## Russian Space Station Freighter Launches



*Video courtesy of NASA / Roscosmos*

On May 8, the spacecraft burnt up in the dense layers of the Earth's atmosphere over the Pacific Ocean.

Initially, the cause of the failure was determined to be the depressurization of tanks on the third stage leading to an improper separation of the spacecraft.

The next cargo craft planned to fly to the ISS according to the present launch

manifest – is the Progress M-28M. The automated craft is currently scheduled to be launched on July 3.

In an effort to make up for the cargo lost on Apr. 28, NASA has pushed back the scheduled flight of the next [SpaceX](#) Falcon 9 v1.1 booster and Dragon spacecraft bound for the orbiting laboratory. At present, that flight is slated to occur no-earlier-than June 26 at 11:09 a.m. EST (15:09 GMT).

Video of the International Space Station Progress 59 cargo craft



*Video courtesy of NASA / Roscosmos*

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Tomasz Nowakowski is the owner of Astro Watch, one of the premier astronomy and science-related blogs on the internet. Nowakowski reached out to SpaceFlight Insider in an effort to have the two space-related websites collaborate. Nowakowski's generous offer was gratefully received with the two organizations now working to better relay important developments as they pertain to space exploration.